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Original.

PYEMIA AND SEPTICEMIA IN THEIR SURGICAL ASPECTS.

BY J. M'FADDEN GASTON, M. D.,
Atlanta, Ga.

(Continued From Last Number.)

We are informed that pyemia usually follows wounds, suppurative inflammation of bone, or the puerperal state; and results in the formation of secondary abscesses in the viscera joints and connective tissue; and that it is sometimes associated with phlebitis or embolism." But this term is only applicable to those cases in which pus enters into the calculation. The morbid effects from other sources may be designated as toxemia, being the result of some toxic agent of a different kind, but should not be included in the category of pyemia. Thus it turns out that the cases of blood-poisoning may be numerous in which the element of purulent infection does not exist. It is true that cases of pyemia without any discoverable lesion have been reported, and it is hence inferred that the condition may occur as an idiopathic disorder. But in this, as in tetanus, the weight of evidence is in favor of a local origin, and it is in many instances difficult to detect the focus of suppuration. The development of pyemia cannot take place without the previous formation of pus, which becomes absorbed by the lymphatics.

The studies of Virchow concerning thrombosis and embolism showed that the changes in the veins which had been regarded as due to phlebitis were caused by the coagulation of the blood, and by subsequent degenerative changes in the thrombi thus formed; that the infraction and abscesses seen in the veins were due to emboli which had become detached from the softened thrombi; that as the white blood globules and pus globules were identical in appearance they could not be distinguished, and that it was improbable that pus globules found their way into the blood. On the other hand, Sedillot, Weber, Billroth and others have held that laudable fresh pus was capable of being absorbed and of producing a febrile movement (International Encyclopedia of Surgery). In support of the view that the poison might be one of the chemical products of putrification Panem's investigation led to the conclusion "that there is in putrifying fluids a specific chemical substance, soluble in water. This substance, if introduced into the blood, produces the peculiar symptoms which belong to what is usually called putrid or septic infection. This possesses such properties after being freed from all microscopic organisms."

It is no longer held that pus enters bodily into the circulation except in the event of ulceration of the venous walls, but the contact of pus with the lymphatics leads by a pathological process to septic absorption and hence to general contamination of the system. The experiments which have been resorted to for recognizing a distinction between the white cor-

puscles of the blood and pus corpuscles have not afforded definite results, nor has the hypothesis of a third blood corpuscle availed anything towards a solution of the problem connected with purulent infections.

The fact of a toxic influence being conveyed by pus through the lymphatics to the vascular system is recognized generally by pathologists, and while the link which connects cause and effect has not been clearly established, the clinical relation is sufficiently definite for all practical purposes. The collection of pus in the internal organs when confined by a pyogenic membrane may develop hectic fever, which disappears after the evacuation of the abscess; but the removal of a purulent focus of absorption does not always arrest pyemia.

That pyemia may occur independent of any ptomaine element is a fair inference from the history of cases in which purulent absorption seems to account satisfactorily for the train of disorders which are observed. In the cases of multiple abscess which are developed from a purulent focus, there is no reason to doubt that pus has entered the lymphatic system and, being arrested at certain points, leads to local collections of a purulent character. These abscesses conform in most respects to the characteristics of what is known as cold abscess, partaking of the nature of chronic abscesses; and are rarely accompanied with the accute inflammatory manifestations of phlegmonous abscesses.

When a purulent focus leads to the absorption of pus there must be a deficient formation of that protecting sac known as the pyogenic membrane, and, consequently, the purulent collection escapes into the collective tissue, and is taken up by the lymphatics and conveyed to the blood vessels or the capillaries. It then becomes absorbed, and, in some way not very well defined, develops pyemia commonly understood as blood-poisoning.

There may exist a local contamination from contact with septic matter, which spends its influence upon the part and forms a circumscribed abscess, without manifesting constitutional effects. Again there may occur absorption of pus through a slight prick or abrasion of the cuticle, attended with but little local irritation, which shall lead to general disturbances of a grave character. The development of lymphangeitis is marked by redness and tenderness along the tract of the lymphatics and with inflammation of the lymphatic glands. This is accompanied with decided febrile reaction and with prostration of the vital forces, terminating either by resolution of the inflammatory process or by suppuration at different points from arrest of the lymph in the swollen ganglions. It sometimes appears to lessen and mitigate the constitutional disturbance when these local collections of pus are discharged by free incision and drainage. But on other occasions no relief is afforded by their evacuation, and other points become the seat of suppuration with an aggravation of the symptoms of purulent absorption and infiltration.

These collections of pus are not confined in a distinct and circumscribed area by a pyogenic membrane, but permeate the cellular tissue and extend along the sheaths of the tendons, thus assuming the character of a diffused abscess. The toxemia may be limited to one side of the body entirely or may extend throughout the absorbents on both sides and thus become general, involving the whole system. The exhaustion of the vital forces at this stage is usually accompanied with great emaciation, and the nutritive process becomes so much impaired that nourishment avails but little. In a paper submitted for consideration of the American Surgical Association in 1893 the full report of a most protracted case of pyemia was given in detail. This patient presented all the various features of the different stages of this affection, and I would refer those who are interested in the history of this disorder to the transactions of that year for information in regard to the progressive destructive work of this disease to its fatal termination after the lapse of nearly

five months, attended with extreme emaciation.

As an offset to this fatal result I may advert to two fortunate cases of great gravity in members of the medical profession—one being in the person of an interne in the Providence Infirmary at Atlanta, and the other being that of a prominent practitioner of Anniston, Ala.

The former occurred from slight injuries to the hand in making a post-mortem examination, under my observation, and came under my care, beginning with points of local irritation, extending to the entire arm, and becoming, in a few days, a constitutional disorder. It ran through a most violent course, attended with suppuration at various points in the hand and arm, and leaving the subject extremely prostrated and emaciated, with a long, protracted convalescence. There was finally remaining only the stiffening of two fingers of the affected hand.

The latter case, above mentioned was seen in consultation with col leagues, and was in consequence of a scratch by a piece of necrosed bone, in performing a surgical operation. Incisions had already been made to relieve tension at several points about the hand and wrist, and the patient was kept under the influence of morphine. It may be briefly stated that with the treatment, which will be outlined, he eventually recovered entirely.

The indications at the outset, when there is local irritation at the point of injury, is to incise the affected part, and cauterize with carbolic acid, applying to the adjacent area an ointment containing equal parts of the following:

R.—Ung. Hydarg.
Ung. Iod. Comp.
Ung. Camph.
Ung. Bellad.

A poultice of flaxseed meal may cover the inflamed structure, and be renewed frequently to keep up heat and moisture.

If there should follow much swelling and great tension, incisions should be made freely to relieve the constriction, and give an outlet to the sero-sanguinolent accumulations. This course is more especially indicated when the hand is involved, and when the inflammation extends up the arm, invading the axillary glands, the ointment and poultice should be carried up to the shoulder, so as to cover the entire arm.

If the case progresses favorably, there may be no accumulation of pus above the elbow, but if abscesses form, they should be promptly evacuated, and washed out with antiseptic solutions.

It may be laid down as a general rule for our guidance, that any original or secondary purulent focus should be freed from septic matter, in whatever form it may exist. If not accessible by curetting or swabbing out, then we may avail ourselves of syringing with those antiseptic solutions which are least likely to do harm by absorption, such as peroxide of hydrogen, permanganate of potash and Lugol's compound solution of iodine. In the event that blood clot has remained in the womb after labor or abortion, and is undergoing decomposition, there is, in my observation, a decided preference for a strong solution of chloride sodium, as it conduces best to dissolving the blood clot. This holds good in the case of sanguineous deposits in the abdominal cavity, in hematoma wherever found, and in the accumulation of menstrual fluid, though there may be no coagula to dissolve, and whenever a septic process may result from the collection of blood in the tissues. The solutions of carbolic acid and corrosive sublimate should not be used, as by absorption they may prove detrimental.

The medicinal treatment must be varied, according to the condition of the general system at the different stages of infection, and at the outset calomel and Dover's powders in moderate doses, followed by Epsom salts, with senna tea, are usually indicated. After free purgation, it is found that quinine and phenacetine have a most salutary effect, and if there is great suffering, with pain and restlessness, morphine and atropia may be employed hypodermically to secure rest.

To modify acute inflammation before the suppurative stage, the combination of fluid extract of jaborandi

with salicylate of soda, has been attended with most salutary effects, and should be urged to the extent of tolerance. It is to be expected that free diaphoresis and profuse salivation will eliminate to a large extent the poisonous contamination of the vascular system.

I had occasion to observe some years ago a most happy and complete transformation in a case of puerperal septicemia from the subcutaneous injection of one-tenth grain of pilocarpine which produced profuse sweating and relieved the patient of all septic troubles.

After the development of abscesses the chief reliance is upon tonics and depuratives; my experience with the following combination has been quite satisfactory:

R.—Tinc. Cinchonæ Comp .....2 oz
Tinc. Nucis Vomicæ .....1 dr
Kali Chloratis .....1 dr
Aquæ, q. s.....6 oz
M.—Sig. Tablespoonful every three hours.

When the toxemia progresses in connection with the purulent discharge it has appeared to be advantageous to introduce into the system gradually an alterative and tonic, such as the following:

R.—Donovan's Solution .....4 dr
Tinc. Gentian .....3½ oz
M.—Sig. Teaspoonful every four hours.

To arrest disintegration of structures, various preparations of iron, such as the albuminate of iron, iodide of iron and the muriated tincture, with cod liver oil, lager beer, malt, etc., have been used with benefit in the advanced stages. Everything which can aid the recuperative process in indicated.

The proper sphere of real antiseptic surgery comes into play with pyemia and septicemia, as these are pre-eminently septic developments which require the use of measures to counteract the contamination of the organism. Not only in the local but in the general manifestations is sepsis to be combated, and hence it becomes requisite to correct the secretions and stay the disease of the organs by internal antiseptic remedies. Some have regarded alcoholic treatment as indicated from the outset of the disorder, and that nourishment of a character to prevent the waste of tissues should be combined with the alcoholic stimulant. The mixture of milk and whisky or brandy, in form of milk-punch, is found to meet the requirements satisfactorily as a routine diet. But it is desirable to supplement this with beef soup, cornmeal gruel, malt and fresh vegetables, such as Irish potatoes, okra and tomatoes, suited to the state of the digestive organs and to the power of assimilation. It is a matter of pre-eminent importance to sustain the physical organization throughout the septic process.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The fifth annual meeting of The American Electro-Therapeutic Association was held in Toronto, Canada, on Tuesday, Wednesday and Thursday, September 3, 4 and 5, 1895. The sessions were well attended. The first day's session began at 10 o'clock on Tuesday morning, the president, Dr. A. Lapthorn Smith, of Montreal, introducing Dr. James Thorburn, of Toronto, who welcomed the visiting members on behalf of the resident profession. Dr. Charles R. Dickson in an address also welcomed the members.

The president then read his address on "Electro-Therapeutics in General Practice." This was followed by the reading of the reports of the Committees on Scientific Questions. Then followed the reading of the papers in their regular order, as per accompanying list.

In the evening the members were invited by the president of the Toronto Street Railway to a ride around the city in his private car. Mr. James Gunn, the superintendent, showed the members the power house of the company.

The second day's programme was carried out as per schedule. The executive session was held in the afternoon, the election resulting in the selection of the following officers for the year 1895-1896, viz.: President, Dr. Robert Newman, of New York city; vice presidents, Dr. Holford Walker, of Toronto, Canada; Dr. D.

B. D. Beaver, of Reading, Pa.; treasurer, Dr. R. J. Nunn, of Savannah, Ga.; secretary, Dr. Emil Heuel, of New York city; Executive Council, Dr. W. J. Morton, of New York city; Dr. G. Betton Massey, of Philadelphia, Pa.; Dr. W. J. Herdman, of Ann Arbor, Mich.; Dr. Emil Heuel, of New York city; Dr. Wendell C. Phillips, of New York city.

In the evening the resident profession, who had taken a lively interest in the proceedings of the Association, tendered to the members a reception at the Toronto Athletic Club. The chairman of the Committee of Arrangements, Dr. Charles R. Dickson, had arranged a very fine concert, which was followed by a collation.

The third day was devoted to the transaction of unfinished business. To the labors and influence of Dr. C. R. Dickson the members enjoyed a very pleasant afternoon at the Toronto Exposition as the guests of the president of the Exposition, Mr. John J. Wittrow.

In the evening the members were the guests at dinner of the Board of Directors of the Exposition. This was followed by a visit to the Fall of Lucknow and the Pyrotechnic Exhibition.

The president has appointed the following committees for the year 1895-1896, viz.:

Committee on Induction Coils and Alternators—Dr. A. H. Goelet, chairman; Dr. G. Betton Massey, Mr. A. E. Kennelly. Committee on Meters—Dr. M. A. Cleaves, chairman; Dr. O. B. Douglass, Mr. W. J. Jenks. Committee on Static Machines and Condensers—Dr. W. J. Morton, chairman; Dr. W. J. Herdman, Dr. J. H. Kellog. Committee on Constant Generators and Controllers—Dr. W. J. Herdman, chairman; Dr. Robert Newman, Mr. R. G. Brown. Committee on Electrodes—Dr. C. R. Dickson, chairman; Dr. Lucy Hall-Brown, Dr. E. C. Riggs. Committee on Electric Light Apparatus for Diagnosis and Therapy—Dr. J. H. Kellog, chairman; Dr. E. C. Riggs, Mr. J. J. Carty.

It was decided to hold the next, the sixth annual meeting of this Association, in Boston, Mass., in the latter part of September, 1896.

A PRACTICAL STUDY OF THE BLOOD AND THE CIRCULATION, WITH A HISTORICAL REVIEW OF THE SUBJECT AND ITS BRIEF CONSIDERATION FROM THE STANDPOINT OF ITS CHEMICAL COMPOSITION, ANATOMICAL STRUCTURE, AND PHYSIOLOGY; INCLUDING CLINICAL STUDIES, AND EXPERIMENTAL RESEARCH ON THE LOWER ANIMAL.

BY THOMAS H. MANLEY, M. D., NEW YORK.

Continued from last number.

PART VII.

THE CIRCULATION OF THE CAPILLARIES.

The ultimate destination of the oxygenated blood is the capillary system. After the blood is discharged into these vessels this fluid commences to set in motion those vital morphological and chemical changes concerned in the maintenance of nutrition and life; new, fresh regenerating elements are distributed, effete, residual, lethal elements are taken up from among the connective tissues; structures are supplied, the organs and glands are provided with that pabulum wherewith they are enabled to fulfill their functions. It may be said that to the capillaries are severely restricted all those mutations and finer physiological changes in which the blood is concerned. The blood has been carried to them, on outside, by one system of vessels, and another is ready to receive their contents after its many and complex functions have been performed. We may compare the capillary system with a vast laboratory, open to receive the richly charged vehicles of supplies—the corpuscles. By a complex and intricate machinery and by the utilization of chemistry, materials are quickly transformed, the necessary elements retained and the residual cast aside, as a by-product. This comparison, as applied to the capillaries, is somewhat an exaggerated one; still it may

serve as a rough analogy. The arterial blood reaches the capillaries unchanged from the heart, and the elastic, bright crimson corpuscles are shot into them with the speed of a rocket. The living blood enters them with a mighty rush; but the archery suddenly breaks up and the vast host of corpuscles are sent into a thousand or more different directions. The impetuosity of the circulation has met a check, and now, happily with the aid of modern inventions, and a knowledge of those influences which affect the circulation, we may in many animals observe the movements of the hematic elements over the entire ultimate cycle. The capilliarized corpuscles, so to speak, enter the venous-current, changed in form and color, with a halting, languid movement. Formerly physiologists held that the principal blood changes in the transit through the capillary consisted in nothing more than a loss of oxygen and increase in carbonic acid gas; but now it is an established fact that this is only one of the many changes in which every element of the blood participates. Anatomists tell us that in certain situations, especially in cavernous tissues and in the spleen, the arterioles are directly continuous with the venous radicles, without the intervention of typical capillary structures; and, that the capillaries vary in size in different organs and structures. In area the capillaries taken together on cross-section amount to 800 times that of the aorta at its origin. With this vast capacity it is easy to understand that though the general steady movement through them in health is moderately rapid, yet, in order for the whole volume of the circulation to move through them the period for interchange is more than momentary, and sufficient time elapses for many vital and chemical changes. Notwithstanding that by injection we may force fluids directly from the arteries into the veins, the existence of capillary system has been called in question. But this view has not been proven by such demonstrations as to carry conviction; nevertheless, as we will see later, there are very good reasons for believing that in the peripheral circulation, at least, something more than these protoplasmic tubes are concerned in the final distribution of the blood, as there are many histological structures, the seat of physiological activity, quite isolated from them. On this subject there must for the present remain a large degree of conjecture, for in no other manner can the question be settled than by a direct study of the living, moving vessel; something quite impossible in all the organs. Dollinger believed that the arteries in their ultimate endings had no parietes, and that the blood moves, destitute of such, through a peculiarly organized substance; the veins and lynophatics originating in this as the arteries terminate it.

According to Hilbrand's theory, the whole blood is converted into organic matter or secreted fluids; that a proportional quantity of blood is secreted or thrown off by the different organs. Both of these authors assert that there is no evidence derived from either injections or magnifying power of the microscope to clearly establish a direct connection between the veins and arteries.

Haller and other distinguished authorities of his time attempted to prove that the minute terminal of an artery ended in five different ways—first, directly into the veins; second, into excreting ducts; third, in exhalants, in lymphatics and in colorless arteries. This doctrine in a modified form was maintained and taught by Boerhaave, Vieussens, Ferrein, Sommering, Chaussier and the majority of anatomists in later times. It may be added that these opinions rested on microscopical observations, injections, the changes occurring in white and transparent vessels, in times of inflammation.

Prochaska, Mascagni, Richerand and several others denied the existence of these vessels. The variety and complexity of vital and chemical actions certainly seem to demand a more extensive circulation than the generally acknowledged channels of supply. That the arteries are continuous with the veins is as self-evident as the circulation itself in the

main is no doubt an unassailable position; but that alterations, metamorphoses and vitiation of the corpuscular elements are entirely dependent on conditions promoted by the capillaries is, without doubt, erroneous.

By the aid of the microscope there are certainly things which we are enabled to determine with a considerable degree of certainty; but the use of the lens has its limitations, and there are very many of the most complex problems connected with the capillary circulation, in the solution of which it fails to aid us.

After the blood is discharged into the capillaries vital operations commence, active osmosis and exosmosis begin; large quantities of fluid escape from the plasma into the adjacent tissues; the endothelial and epithelial elements are renewed; the wasted, worn-out elements resorbed. The blood as it moves along within the capillary net washes the surface of the secreting follicles; but into the basis substance of their epithelial lining, through their stomata, or into the cullular interspace, not a single corpuscle will enter. We see the lymph paths, with the dimly defined nucleated, endothelial walls, passing under, around or between the capillary and its moving contents; the medullated nerve-sheath and its inclosed axis-cylinder lying alongside or across the course of a capillary, but none of the histological elements are directly fed by the corpuscles. How, then, is tissue metabolism, regeneration, growth and nutrition maintained? Undoubtedly, nay, almost indisputably, by a collateral circulation, such as is not yet described, because it has never been seen. It has eluded detection, because of its transparent elements, and for the present must be inferred, rather than demonstrated. To assume then that there is only one general circulation, that the capillary walls alone are endowed with such properties as execute the necessary changes in nutritution, is undoubtedly erroneous. They occupy physiologically an intermediate position only, between the artery and veins; confine the corpuscular elements of the blood; lead them to those territories needful of their functions; give off and take up; to be carried away for elimination or revitalization, nutritive or residual elements.

A NEW MEAT NUTRIENT.

I find Somatose, the new meat nutrient, a great assistant in the treatment of tuberculous and other wasting diseases.

It is a concentrated food, containing nearly 80 per cent. of albumoses. It differs from all other beef extracts in this essential point: it contains nourishment for wasting tissues, while the others are not foods, but stimulants. Somatose repairs waste of tissues; is always acceptable to the stomach, easily digested and immediately assimilated; increases the appetite; can be partaken of while undergoing active or athletic exercises; and this brings me to say that it is the best nutriment for bicycle riders and other athletes.

Put up in a most acceptable and portable form—somatose biscuits (by American Biscuit and Manufacturing Company, of New York)—it is not only a palatable food, but the most easily assimilated preparation ever produced, these biscuits containing 10 per cent. of somatose. Century riders will find it a boon, and I hope to see it supersede all stimulants like kola, etc. These simply allow one to draw on his reserve force and must be followed by depression to a certain extent, and when indulged in often are highly injurious. In somatose biscuits we have a food that sustains better than stimulants, and there can be no depression following it. It builds up tissue rapidly, and is the only proper food for persons needing something in a concentrated form to sustain them while undergoing excessive fatigue or severe exercise.

I will add that somatose biscuits are pleasing to the taste, which increases their value, the stomach accepting them most eagerly.

C. H. BERRY, M. D.,
No. 96 State st., Chicago, Ill.

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FRANK S. PARSONS, M. D., - - - Editor.
BOSTON, MASS.

JOSEPH R. CLAUSEN, A. M., M. D., Manager.
PHILADELPHIA, PA.

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EDITORIAL STAFF.

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PHILADELPHIA, NOVEMBER 2, 1895.

"ON ELECTRIC REPRODUCTION OF FORMS."

Dr. B. W. Richardson, of England, gives the following as a result of original research in the last number of the Asclepiad:

Whilst watching the action of electric excitation on portions of nervous and muscular particles in very fine division, an observation turned up that was new in its character, and seemed not merely curious but important. I have put it under a distinct head and title, with the hope of deriving fresh light from it in the future.

During the simple experiments of placing perfectly dried nervous and muscular particles in the Newtonian box, as I may call it, I thought it would be well to compare the two material substances of fine nerve and muscle with other animal or vegetable substances, equally well desiccated, and placed under the same condition, for electrical excitation. I placed carbon, sulphur, magnetic iron powder, flour and starch under excitation, with results that were instructive as well as novel. But what interested me most was the complete reproduction of form by the process adopted when animal substances were employed—bone dust par excellence.

Effect on Dried Bone Dust.—A few grains of dried bone dust were placed on the floor of the box, and the covering, glass, having been placed in position over the dust, was subjected on its upper surface to friction. I expected, as actually occurred, that the fine dry particles would begin to move from the friction made on the glass; but I could not expect what really happened, namely, that portions of the dust, rising invisibly, adhered firmly to the under surface of the glass plate in the exact form of the structure that rested on the floor of the box.

The fact observed of the original form from the floor of the box was varied in the most different ways. The substance was laid out in the form of a cross. A portion of it rose, under the excitation, half an inch, and adhered to the under surface of the glass plate, taking the precise form of the cross below, even to irregularities of structure, so that the glass plate could be taken out impressed with the figure in an accurate degree in loose bone dust.

The figure on the floor of the box was changed. It was laid out in the shape of an animal, in the shape of a crown, in the form of letters of many varieties. It always rose to the under surface of the glass plate in the shape in which it had originally been formed.

A more curious experiment was the following: Figures were cut out from a portion of paper, so that the paper looked like a playing card of

diamonds, except that instead of the diamonds being painted in the ordinary manner, they were made as diamond-shaped openings. The cut paper was laid on the floor of the box and the openings were evenly filled with bone dust. The paper was then placed upon the floor of the box and stenciled with the dry powder. The glass was made to cover the whole and was warmly excited, on which all the part of the bone powder rose and adhered to the under surface of the glass, so that when the glass was lifted up the appearance of diamond shapes of dust remained on the glass. Twelve hours later the figures were still distinctly and rather firmly adherent.

Effect on Silica.—In another set of experiments the dried bone dust was replaced by silica, reduced to very fine powder and thoroughly dried. The figures drawn on the under surface of the glass plate were, if anything, more definitely copied out than with the bone dust—that is to say, the angles at the corners of squares were more refined, and the lines were sharper in curves, as is seen in the figures of leaves and the outlines of plants.

Effect with Albumen and Bone Dust.—Upon a part of the under surface of the glass plate a disc of albumen derived from white of egg was lightly painted. On the floor of the box a thin layer of finely-powdered bone dust was laid in a half-moon shape. The upper surface of the glass was exposed to sharp friction, and there soon rose to the under surface of the glass an excellent model of the bone powder, with finely distributed thin concentric layers of the bone substance round the central figure. The central figure itself was a perfect representation of the layer beneath,and for half an inch around it there was a clear round space which formed a very distinct ring, in which there was some fine deposit. There was formed around it a large halo of a fine shade, cloudlike, which took a concentric form a good inch in diameter on the glass.

Effect on Albuminoid Membrane.—A fresh egg was broken and a portion of the lining membrane of the shell the size of a half crown was spread out on the under surface of the glass plate. The mebrane was then coated with a thin layer of the albuminous white of the egg. The plate so charged was placed in its usual position in the box, and beneath the albuminoid membrane there was laid on the floor of the box a thin layer, of the same circumference, of fine bone dust. Under excitation of the upper surface of the glass a portion of the dust rose and adhered to the membrane, and around the membrane there spread out on the glass a fine cloudlike halo of the dust, through which ran series of delicate lines in a horizontal or faintly curved direction. After the bone dust cloud was complete the glass plate was removed and placed in the warm oven at 105 degrees Fahr., where it remained twenty-four hours. On being removed, the portion of membrane covered with the dust was quite dry and looked and felt exactly like eggshell, lifting easily from the plate.

Effect of Bone Dust on Widespread Albuminoid.—A glass plate fitting the box was covered with a thin layer of albumen. A portion of bone dust was laid in the centre of the floor of the box. The upper surface of the glass was subjected to friction, on which a well-marked impression of the surface of bone dust beneath was portrayed in a strong layer, while, as in previous cases, a halo of the dust was distributed over the glass in a large oval form. The glass on being removed was placed in the warm oven at 105 degrees Fahr., and remained also twenty-four hours. Upon removal a fine layer adherent to the albumen was spread out and fixed. There was in this layer diffused around the central prominence this peculiarity; there was a ring of a most perfect kind immediately surrounding the central layer and extending nearly half an inch around it. This ring was all but transparent, but was of the most definite character. It extended about half an inch from the central object, and from it was diffused a delicate cloud, thicker than itself and much larger, oval in shape and covering a surface quite three inches from the centre, the lines

radiating from the near or lighter ring. It was a very pretty object, interspersed at points with slight depressions, like faint marks made with the end of a probe.

Effect on Phosphate of Lime.—The under surface of a glass plate fitting the box was coated with a thin layer of fluid gelatine, perfectly transparent. On the floor of the box in the centre was laid a thin layer of phosphate of lime the size of a crown piece, but made irregular at the edges, intentionally, with one or two deep clefts. The glass was placed in its usual position with the gelatinous surface beneath; the upper surface of the glass was then subjected, in the usual way, to brisk friction, on which the phosphate of lime rose in the centre in considerable part and formed on the glass a precise image of itself, so that on comparison one image could easily be mistaken for the other. The glass was taken out very gently, when the following appeared: In the centre was the fac-simile of the lime layer, one inch and a quarter long, and at one part an inch wide, but with all the irregularities that had been marked on the original lime deposited. Around this centre, the margins of which were a little intensified, there was another finely marked layer, the fourth of an inch broad, completely surrounding the central mass, but not following it in outline; being, in fact, very sharp at its edge, though a great deal lighter in tone, and laid down in very distinct and fine encircling layers. From the external outline there ran other figures of the lime, extending lengthwise in one case one and a half inches, in the opposite direction one inch, in a lateral direction about one-quarter inch. The long parts gave a kind of external bat's-wing form to the centre, the layers seemingly concentric. The mass in the centre was very firm and bonelike in construction, but did not seem concentric like the final parts, the electric fluid not appearing to disseminate it equally, and leaving in it two or three oval-shaped thinnesses, which admitted light much more freely than its surrounding parts, except at the circumference.

Influence of Water.—The same kind of influence of water was observed in these experiments as in previous ones. If the under surface of the glass plate were moist there were invariably figures and outlines of the substance, with diffusion over a wide surface, with occasional condensations and points. It was also observed more than once that when a figure formed from dried material had been rubbed off the glass, so that the glass presented no surface of any figure upon it and was everywhere equally transparent as it seemed, the curious change took place which has been before observed, and ably demonstrated by Mr. Crofts; that is to say, when the glass was exposed to water vapor in the form of a light steam jet, the figure that had been previously marked upon the glass reappeared when the surface was made moist by the water vapor, but passed away as the water evaporated.

The above is presented as nothing more than a mere piece of original nature writing, which must not be left to rest at this stage of inquiry.

TRANSLATIONS FROM

Foreign Exchanges

BY DRS CHANDLER AND DAVIDOW.

POTASSIUM BICHROMATE AS A GASTRIC REMEDY.

Dr. T. R. Frazer obtained good results in 18 cases of gastric dyspepsia minus symptoms of ulcer, and 10 cases with symptoms of ulcer with Valpian's recommended treatment in gastric affections with potassium bichromate. In all the 28 cases, aside from purgatives, no other drug was administered, that the action could be carefully watched. Doses of five milligrammes to one centigramme, part in solution and part in pills, was given on empty stomach three times a day. To correct the taste in the larger doses it was combined with syrup of tolu or aromatics.

In simple dyspepsia, even small doses had a good effect. Within a short time it relieved the pain, nau-

sea, sensation of pressure and would stop vomiting.

In dyspepsia due to anemia or obstipation the drug has no effect. In a few cases of acute ulcer of the stomach with hemotomesis no result was obtained. In conclusion it is to be noticed that the drug has a strong germicide quality, which is probably one of the causes of the effect in dyspepsia.—Wiener Med. Blatter, 1894, No. 22-24.

PYOBACTERUM FISHERI.

With this name Dr. Kuttner christens a new pus developer, which he describes minutely in the Zeitschr. fur Hygiene, Vol. xix, No. 22. The organism shows similarity with the bacterium coli comune; it, however, distinguishes itself by certain characteristics. It is not as big nor as plump, grows slower, builds colonies of pure white and is more active in its movements. It coagulates milk slowly and in fine films, is a milder fermentor to sugar solution and does not produce alkalinity, but is rather slightly acid. It is distinct from bacillus Gaestner, pyogenus fetidus, bacillus endocarditis griseus and bacillus meningitis purulenta. A special characteristic being its wealth-producing culture of liquids, namely, indol and nitric acid—a peculiarity of which until now, excepting the vibrios, was observed in a small variety of organisms. Experiments on animals show the pyobacterum to be purely pus developer; in the mouse, guinea pig, rabbit and pigeons proving to be pathogenic. The introduction into serious cavities and the circulation killed the animals of septicemia in a short time. By subcutaneous or intromuscular embodying it leads to suppuration, forming abscesses on the 7-9 day, resembling croupous or diphtheritic process. In large doses the animals succumbed before abscess formation; with small doses the course is slow, formation of abscess and usually ends in death.

No. 38 Vratch appears with a wide black border in mourning after the late Professor Pasteur.

The Russian millionaire, A. G. Kusmetzow, in his will, remembered his physicion, Dr. P. P. Abrodinski, with 10,000 roubles.

In acne of the face, at the St. Louis Hospital, in Paris, the following ointment is used:

R. Sulf. sublim..... 7.0
B. naphtol .....
Ungt. styrac .....aa 2.0
Axung. porc.....50.0

M. f. ungt. D. S. Apply for six nights in succession, rubbing in well. After this time the acne should be mostly healed; otherwise, after some pause a few more applications are to be given.

In the suburbs of Odessa, young Dr. Nicolas Ilitch Kirakoff shot himself, five minutes after receiving the news that the patient on whom he operated for strangulated hernia died. Dr. Marragin, who assisted him in the operation, in a letter to the "Iusno-Russkoie Medecinskoie Obossenii" states, that no mistake was made in the technique of the operation.

On the 14th of September, the corner-stone was laid for the Pirogoff Anatoma-Chirurgical Musea to commemorate the illustrious Russian surgeon, Dr. N. N. Pirogoff.

Mrs. E. A. Masinoi-Puschkinoi donated 60,000 rubles, the Imperial treasury 30,000 rubles, and the ground of 7000 square feet was presented by the City Council. The Building Committee is under the chairmanship of Prof. Ratimoff. It will be a model institution, where the medical societies will hold their meetings and store their libraries.

On September 24, a public jubilee was held in honor of the thirty years work of the venerable and much respected opththalmologist, Professor Leopold Leopoldoritz Lirschman, of Charow. The medical society presented to him an address; in their hall a life-size portrait of the professor was unveiled and a perpetual free bed named after the professor was placed in the city hospital for diseases of the eye.

A. D. D.

ABSTRACTS.

A CASE OF ENTIRE ABSENCE OF UTERUS.

FROM ROSTOFF ON THE DUN CITY HOSPITAL.

DR. M. K. HAIROBETOFF.

(Medecinskoie Obossenii, Vol. xliii, No. 13.)

Authors case is of interest from the fact that post-mortem fully substantiated the diagnosis of entire absence of uterus, previously made.

Patient entered hospital for treatment of pulmonary disease; was of middle stature, emaciated, pale yellow countenance, skin rough from strong desquamation of epidermis. Patient never had a menstruation nor vicarious hemorrhage and in the act of coition had not experienced any sensation of pleasure. The patient, however, distinctly noticed that the usual desquamation of the skin of the body would increase once a month accompanied for 3-4 days with headache.

On examination, the mammary glands were in a rudimentary state, the small nipples indicating its position. Vaginal opening normal, admitting two fingers, both labiae majora and minora scarcely developed.

The vagina represented a blind pouch two inches in length. On the upper wall where the external os of the uterus is normally felt, a tubercle of small size was perceptible. On examination per vagina and rectum, nothing could be felt indicating the uterus or its appendages.

Patient died in hospital. Post-mortem, instead of uterus and appendages—the tubercle above mentioned was found. The peretoneum coming down straight from the bladder to the rectum, and in place of the broad ligament were lodged two fine fold of peretoneum.

A NOTE ON CALOMEL.

A. Piasetski in Medecinskoie Obosrenii, Vol. xliii, No. 12, describes in detail ten cases of heart disease treated with calomel, and forms the following conclusion:

1. Calomel is indicated in dropsy due to heart disease, accompanied with icterus. In the absence of the later this drug is contraindicated.
2. Calomel acts as a diuretic when given in laxative doses, in cycles of four days. The diuretic effect is only obtained on the fourth day and continues 24 hours after its withdrawal. The dropsy may entirely disappear in five to ten hours.
3. The diuretic effect of calomel is the second phenomenon. At first it acts as a laxative.
4. With repeated four days' cycles with laxative doses of calomel and intermediate administration of cardiac remedies, it is possible to attain substantial cure for a long time.
5. After a few such cycles, the pericardium again responds to cardiac remedies.

UNVERRICHT AKROMEGALIE AND TRAUMA.

(Munchener Med. Wochenschr., 1895, No. 14.)

The author in detail describes a case of a male patient, 31 years old, who, in 1887, during work, fell from a scaffold spraining the left arm and about the lumbar region. In addition to these injuries, symptoms of akromegalie developed, enlargement of hand and feet, hypertrophy of the tongue, bilateral hemianopsie, drawing pains in all the joints and other nervous disturbances, so as to be disable to work.

With the uncertainty as to the present discussed theories, as to the cause of akromegalie, it is possible that its etiology may associate with the injury, since a few cases reported in literature, have been noted to associate with some trauma.

NAPHTALIN IN OXYURIS VERMICULARIS IN CHILDREN.

Schwartz, in the Berliner Klinische Wochenschrift recommends naphtalin in oxyuris vermicularis in children. He in 26 out of 46 cases having received prompt and lasting effect, the remaining 20 cases giving only transient improvement. The dose in small children, 0.15, in older (12-13), 0.4, given with sugar as a powder, or in capsules, at the same time administering a mild laxative.

It should be given immediately before or right after meals. Fatty foods are to be avoided, as naphtaline easily dissolves in oil. From the quick absorbtion symptoms of poisoning may arise. After eight doses in two days has been given, there should be a pause of one week before it may be renewed.

Balzer and Locour recommend in epedidymitis yononhoica, yuaiacol ointment (2-50 to 30 vaseline). In the first few days twice, and later only one a day applied, well rubbed in, Its influence is to relieve pain at once. On the reabsorbtion of the inflammatory swelling, this remedy seems to have no effect.

At Budapest Medical University the faculty elected for the year 1895-'96, professor Dr. Andress Hogyes as dean; Professor Dr. Arpad Bokai to secretary, and Leze Michalkoritz as prodean.

A. D. D.

ON THE CURATIVE ACTION OF THE TOXINES IN MALIGNANT TUMORS.

PROF. CAMPANINI (IL POLICLINICO, No. 13, '95.

The favorable results obtained by Coley through treatment of malignent tumors by the toxines of erysipelas incited the author to follow the same method in four similar cases which came under his care. One of these was a fibro-sarcoma of the pharyngo-nasal cavum in a 12 year old boy. The second was a myxo-sarcoma of the glands of the breast in a 64-year old woman. Number three was a lympho-sarcoma of the neck, and the last one a malignant tumor of the prostate.

A streptococcus culture obtained from a mixed diphtheritic infection was used for the preparation of the toxines.

"The streptococci were kept for ten days, at an even temperature of 37 degrees C., and then the bacillus prodigiosus added and mixed culture left to develop for three weeks further. The cultures were then rendered germ free by heating to over 80 degrees C.

"The patient with the fibro-sarcoma of the throat had 1-2 cc. of the toxine mixture injected directly into the tumor. One half hour later the temperature increased, finally reaching to 40.6 degrees C., the patient being sensible of severe chills. The pulse went from 90 to 140 beats a minute, while the respiration was only slightly quickened. The subjective disorders were only slightly pronounced. Especially worthy of note was the extreme paleness of the skin and of the visible mucous membranes during the period of reaction, which latter disappeared after continuing more than twelve hours.

"On the tumor itself, after the injection, was a visible increase of the local temperature, paling of the central portion and formation of a hyperemic ring with hemorrhagic points. The second injection, which was given two days later, comprised 0.3 cc. of the toxine mixture. The reaction and its accompanying symptoms were the same as already described.

"The patient with the tonsillar sarcoma received an injection of 0.3 cc. on the same day. In this patient the fever which followed the injection reached a maximum height of 41.5 degrees. This was accompanied by arrangements of the sensorium and followed by the symptoms of a severe collapse, with scarcely perceptible pulse, extreme feebleness and subnormal temperature. Only with the greatest difficulty was the patient brought out of this condition.

"The extreme poisonous action of the toxines now rendered it necessary to diminish their virulence in order to be able to continue their use. This was done in two ways; first, by sterilization at 80 degrees C., followed by a second sterilization at 90 degrees C., or by dilution with distilled water in the proportion of 60 cc. water to 1 cc. of the toxines. With the toxines diluted to this strength, experiments on animals were made with the non-appearance of the more intensive reactions as the result.

"The patient with the fibro-sarcoma of the nasal cavity, was now treated with the dilute solution, the

strength of which, however, was gradually increased until finally a toxine solution diluted only 1-2 was used.

"Fever was almost nil when the highly dilute solutions were employed, but increased in direct proportion to their strength.

"During the treatment the general and local condition of the patient grew steadily worse, until finally the injections were discontinued and operative measures tried. These were unsuccessful in spite of repeated attempts, and the patient died of exhaustion.

"The patient with the myxo-sarcoma of the mamma, was treated from the beginning with the 1 to 60 solution, increasing gradually to a 1 to 12, at which strength severe fever made its appearance. Forty injections in all were used, the patient grew visibly worse, while the tumor increased rapidly in size, so that finally it was removed by the knife.

"In the case of sarcoma of the prostate, 20 injections of a 6 per cent. strength, were used. No reaction of any kind was noticeable here, but the general condition grew steadily worse, and the tumor continued to increase in size.

"The cases of fibro-sarcoma of the throat and of myxo-sarcoma of the mamma, both of which were subjected to treatment for great length of time, and where a thorough microscopical and histological examination of the tumors was made, showed plainly that the toxines exerted absolutely no healing influence upon the tumors. No signs of a necrosis or other destructive action could be found. No signs either of any action tending to restrict their growth, but on the contrary there was a noticeably rapid increase in their growth.

"An extensive necrosis found in the mammary tumor, had made its appearance before treatment was commenced, and therefore could not in any way be attributed to the curative action of the toxines.

"The microscopical examination of the tumors showed, aside from the spontaneously developed necrosis, no signs of a diminished vitality of the tumor cells. In those places from which necrotic masses had separated were young cells. The periphery of the tumor showed likewise no signs of a healthy reaction. In isolated spots were small collections of leucocytes so that it seems possible that the irritation of the injections into the periphery of the tumors reduces the physiological resistance of the healthy tissues and is favorable to the spread of the disease.

"Of especial interest was the result of the histological examination of the tumor of the throat. Here it appeared that those portions of the tumor which on account of their inaccesible position at the base of the skull were not exposed to the action of the toxine, showed a relatively benignant structure with considerable connective tissue and spindle cells, while the histological structure of the injected portions showed a much more malignant character, for in the place of the spinal cells there was a preponderance of small round cells. The rapid spreading of the metastases in this case causes the thought that the treatment by injections may have had a pernicious influence in every direction.

"The myxo-sarcoma of the breast showed under this treatment a histological change in the sense of increased malignancy, and a rapid decline of the general health concomitant with the increased local symptoms.

"Of all the phenomena which were caused by the injections, that of the exceptionally intense fever was the most noticeable. The reaction was usually preceeded by chills, the temperature then rising rapidly and attaining a height of 40 to 41 degrees C.

"This maximum continues for about three hours, when it falls to hypothermal just as rapidly as it rose. The pulse usually kept pace with the temperature. Especially noteworthy was the deterioration in the quality of the pulse beat after the injections, the radical pulse being on several occasions barely perceptible.

"The breathing was but little affected as to rapidity, but became sterterous.

"Consciousness was troubled during the reaction, yet not wholly lost.

"The subjective disorders which came on after the injections were the worst. The principal of these were terrific headaches, dizziness, ringing in the ears, sparks before the eyes, and deranged vision, thirst, etc. Vomiting was also often present. On the vascular system and the blood the injections worked intensively.

"The skin and the visible mucous membranes took on a pale, waxy, almost corpse-like color.

"Examination of the blood showed considerable diminution in the number of red corpuscles, poikilo-cytosis, micro and makrocytis, lessening of the quantity of hemoglobin and increase of urea and uric acid after long continued injections, traces of albumin.

From the results of these observations Dr. Campanini pronounces Coley's method completely useless, and even harmful, an opinion held by Lauenstein, Kocher, Bruns and other authors.

A conundrum from the "Suffolk Dispensary:" Why do old maids always wear silk mittens? Answer: Because it would not be proper for them to have kids.

CHANDLER.

Surgery.

IN CHARGE OF

DR. T. H. MANLEY, New York.

SUPRAPUBIC CYSTOSTOMY.

Poncet (Bulletin et Memoires de la Societe de Chirurgie, 1894, Tome xx, p. 730), to whom the credit of introducing the operation in France is due, gives the following statistics concerning it: Of 63 cases 21 were aseptic, and all recovered. Of the remaining 42 septic cases 15 died within fifteen days. Of 14 cases of acute urinary intoxication, 11 survived from seven months to two and a half years. Of 24 cases of chronic infection, 7 died within a week, and 10 of the 17 remaining lived less than a year, and but 7 lived from a year to two and a half years. Of 34 cases that lived at least six months, in 12 normal urination was re-established; of the rest 7 had continence; 3 partial continence, and 12 incontinence.

THE DIAGNOSIS OF PREGNANCY IN THE EARLY MONTHS.

Landau (Deutsche Medicinische Wochen-schrift) believes that the exact estimation of the beginning of pregnancy is not possible as, apparently, the ovulation occurs independently of menstruation. The size of the uterus is in the early months also an unsafe guide. The form and consistence of the uterus is more reliable. It is enlarged evenly and in transverse diameter, so that the anteflexion is increased, the vaginal portion is drawn up, the vagina elongated, and the anterior vaginal wall appears tenser than otherwise. The consistence is softer, the sensation being as though the examining finger was pressing in soft butter, the finger passes in, finds no resistance, and returns no impression. Hegar's sign may be recognized in 30 per cent. of the cases; the same sensation as is perceived by palpating the lower uterine segment may be obtained by palpating the tubal angles. The consistence of the anterior and posterior uterine wall is irregular, usually the anterior is softer and looser than the posterior, which probably has some relation with the attachment of the placenta. In the examination attention should be paid to the fact that one cannot recognize these signs at one time, as the uterine contractions soon occur and interfere. It is necessary to examine frequently. The other usual signs of pregnancy should also be taken into account.

Landau's paper was founded upon over 200 cases of pregnancy, from the third to the twelfth week, and refers only to the normal position of the uterus.

LEUCOCYTES IN DIPHTHERIA.

1. The leucocytosis of diphtheria is materially different from that of the other infectious diseases which have been investigated in that particular.
2. Hyper-leucocytosis is in diphtheria a distinctly unfavorable sign, and,

consequently, valuable idications as to the progress of a case and the efficiency of any particular plan of treatment may often be gained from examination of the blood. 3. The diphtheria bacilli which find their way into the body are destroyed by the phagocytic action of the leucocytes. 4. The majority of the diphtheria bacilli concerned in the production of the lesion of diphtheria are cast off in the false membrane; only a very small number are disposed of by phagocytosis. 5. The action of the poison of diphtheria in inducing necrosis of cells tends to lessen the power of the leucocytes to act as phagocytes. 6. The action of antitoxic serum is to make all the cells of the body more resistant to the destructive action of the diphtheritic poison. —Gabritschewsky in N. Y. Med. Record.

UNION BY FIRST INTENTION IN NERVES.

Gluck presented before the Berlin Medical Society the case of a child of a year and a half, operated on May 7, 1895, for extensive tuberculosis in the right radius. In the operation the radial nerve was severed. After careful disinfection the nerve was sutured and then the external wound closed. Primary union of the wound resulted. After fourteen days, the first symptoms of restoration of the nerve were shown and after about four weeks the functions of the muscles supplied by the radial nerve became normal. This is the first instance of primary union in human nerves. Experimental investigations on animals show that after such nerve suturing a portion of the nerve filaments retain their vitality.—Deutsche Medicinische Wochenschrift, July 4, 1895.

THE ETIOLOGY OF PUERPERAL FEVER.

The University Medical Magazine gives the following deductions from Dr. Hermen's remarks in a discussion of puerperal fever:

1. Puerperal fever is produced by micro-organism which get into the system through wounds made in childbirth.

2. These organisms are transferred by contact. They are not inhaled or swallowed.

3. The transferrence of organisms is prevented by cleanliness, and the organisms are killed by antiseptics.

4. The hands are the usual poison-bearers, next in frequency clothes and instruments.

5. Investigation of a particular outbreak of puerperal fever should begin with inquiry into the precautions taken by doctors, nurses and midwives to secure the cleanliness and disinfection of their hands, clothes and instruments.

6. There is no such thing as self-infection with puerperal fever. The causes supposed to produce "autogenic" puerperal fever produce, in lying-in women defended by antiseptics from septic poison, only trivial illness.

7. The inhalation of sewer gas causes in the puerperal woman the same symptoms as in other persons. There is no good evidence that, in women defended by antiseptics from septic poisoning, it produces symptoms like those of septicamia.

8. The poison of erysipelas of the skin produces in lying-in women erysipelas of the skin, and no other illness. But the poison of the disease known as phlegmonous erysipelas of cellular tissue produces puerperal fever.

9. The poison of scarlet fever produces in lying-in women scarlet fever, and no other illness.

Medicine.

IN CHARGE OF
DR. E. W. BING, Chester, Pa.

CREOSOTE IN PULMONARY TUBERCULOSIS.

My own experiments, as also those of Dr. Albu, at the Moabit Hospital, in Berlin, and of others, have conclusively shown that the remedy has no influence upon the disease, and particularly not upon the growth and virulency of the specific germ. Apart from its influence upon the bronchial catarrh, creosote has a value in certain gastro intestinal derangements, but the considerations

for its preference are the same as they would be if the patient were not tubercular at all.—Karl von Ruck in N. Y. Med. Record.

The term "Uricacidemia" recently was stigmatized in these columns as a fearful mongrel never employed by educated writers. This assertion, however, is not altogether true, it seems. For in a late number of the British Medical Journal the eminent Dr. Haig employs, unreservedly, this wonderful combination of two English words and a Greek suffix. Hereafter no one will be surprised to see crop up in medical literature such vocabularly beauties as whitebloodcorpuscleemia, grapesugaruria, eggwhiteuria, gallstoniasis, stomachguttitis, etc. Verily, the English language has lost nothing of the flexibility and adaptability of vigorous youth.—Western Druggist.

PIPERAZIN IN URIC ACID DIAETHESIS.

1. Piperazin in small doses increases the urine; urine becomes clear and lowered specific gravity. 2. Diminishes acidity of the urine. 3. Lessens quantity of urea and the percentage of uric acid. 4. Piperazin, in small doses, given for a long time, does not produce albuminuria if kidneys are healthy; if they are diseased, piperazin given in small doses appears to increase albuminuria, and likewise hematuria. This ceases upon stopping the piperazin. 5. Digestive troubles not aggravated by small doses. 6. Raises blood pressure. 7. No influence on composition of blood. 8. In three gramme dose daily can be well supported by sick; rarely need for larger doses.—Nojinkoff in N. Y. Med. Record.

NOT TO BE GIVEN DURING PREGNANCY.

The chief remedies which are dangerous to the pergnant woman are salicylate of soda and ergot. Purgatives—castor oil, mineral salts, and especially aloes—should be avoided. Quinine in too large doses must also be omitted; when given at all it srould be guarded by combination with opium.—Hugenin in N. Y. Med. Record.

TREATMENT OF CARDIAC DISEASE.

In strychnine we have an ideal cardiac stimulant, which not only acts upon the circulation, but as well upon respiration, digestion and assimilation. It is especially indicated in the weak heart of pneumonia and febrile processes, given hypodermatically in 1-30 to 1-10 grain doses, repeated until some sign of the drug is manifested. It is also useful to relieve the alarming symptoms which occur in surgical anesthesia, in the cardiac weakness often associated with neurasthenia, and in that due to depressed nerve-force. Strophanthus is of great value as a cardiac sedative in that form of tachycardia so common in exophthalmic goitre. These two drugs will retain their supremacy because of their influence over the vital centres in the medulla, to which the various systems of the body look for support and encouragement.—Krauss in N. Y. Med. Record.

ASTHMA.

At the moment of the attack, spray rapidly the back of the patient with chloride of methyl, from above downward and from below upward. The attack will cease in a few moments; if not, spray lightly the upper part of the chest. If the skin be delicate, as in women, cover the parts with a bit of fine gauze and make the strength of the spray proportionate to the strength of the patient and the violence of the attack.—Tsakiris in N. Y. Med. Record.

STARVATION.

If your patient is suffering from impaired digestion, or, in other words, starving, not from lack of food, but from lack of digestion, then prescribe Seng, two teaspoonfuls before each meal.

I say that Peacock's Bromides will do all that is claimed for it; it is much more active and certain than the commercial salts.

G. H. CHAPPELL, M. D.,
Grand Rapids, Mich.

PRACTICAL DIETETICS.

BY W. GILMAN, THOMPSON, M. D., Professor of Materia Medica, Therapeutics, and Clinical Medicine in the University of the City of New York, Visiting Physician to the Presbyterian and Bellevue Hospitals, etc. (Pages 142 and 143.)

Diastase in a vegetable ferment which has the property of converting starchy foods into a soluble material called maltose. Like the ferments in the saliva and pancreatic juice, it acts in alkaline solution, but, unlike them, it continues to operate in acid media and, therefore, its action is not disturbed by the gastric juice. Diastase is a peculiar substance which causes the ripening of fruits and vegetables by converting their starches into dextrins and sugars; hence fruit becomes more and more digestible as it ripens.

Maltine is made from three cereals —barley, wheat and oats. It is rich in diastase. It may be taken either plain, with cod liver oil, with coca wine, and pancreatin, with hypophosphites, etc., in tuberculosis and other diseases.

LEUCORRHEA IN YOUNG UNMARRIED WOMEN.

In the treatment of leucorrhea in young unmarried women, instances frequently occur in which the usual practice of making an examination to ascertain the condition of the pelvic viscera is so obnoxious to the patient, or is so firmly opposed, that the physician is forced to abandon it, and have recourse to medicine.

In such cases Dr. Slocum has learned to depend upon the scientific action which cantharides appear to exercise upon the cells constituting the genital as well as the urinary system. It is probably by direct stimulation of the cell just to the point of successful resistance that the benefit is secured, as the dose is very small. Strangury, or other unpleasant symtom, has not been produced. The action of the drug has been so uniformly satisfactory that when it fails such result forms a strong basis for suspecting the presence of something more than simple hyperemia or mild inflammation. Lessening of the discharge is sometimes noted within five days, but in several cases of profuse discharge of four years' and longer duration the treatment was not successful until after a month's persistent use.

The formula which has seemed the best contains also the tincture of ferric chloride, and dilute phosphoric acids. These though probably modifying the action of the cantharides, are only adjuvants. Following is the usual form of administration:

Tinc. of cantharides.....	96 minims
Tinc. of ferric chloride...	160 minims
Dilute phosphoric acid...	160 minims
Syrup of lemon.....	2 fluid ounces
Water sufficient to make..	4 fluid ounces

M. Dose.—One teaspoonsful in water after meals.—Calcutta Med. Reporter.

Miscellany

CHLOROFORM IN DYSPEPSIA.

BY W. S. SAMSON, M. D., FLAT, O.

Realizing the fact that medical literature is teeming with articles written by the most learned members of the profession on dyspepsia, yet we are not content with this, and will add another short article to the list, and hope, at least, to open to the eyes of the busy practitioner a field for his scientific mind to ponder over.

Of all the diseases that the physician is called upon to treat none causes him more worry, and in no disease is the result so ungratifying to both physician and patient as in the so-called dyspepsia. While the pathology of this disease is fairly understood and the means of diagnosis brought to a degree of exactness not appreciated by all, the therapy is yet quite an unsettled question. It is a conclusive fact that the American people suffer from this disease more than any other nationality, and if we for a moment consider the utter disregard they have for taking indigestible food, their love for pastries, etc., and their persistence in rapidly gulping down their meals like a half-starved hound, we are not surprised at the statistics. From time immemorial certain medicinal agents have been used in the treatment of this disease, with the vain hope of finding one with a definite therapeutical ac-

tion. What has been written on the digestive ferments would embrace volumes; and, too, every physician has one or more of them in which he imposes great confidence. What value to place upon them we are at a loss to know, and continue to prescribe them without any appreciable benefit. V. G. Stadnitzky arrives at the conclusion that chloroform markedly improves all the functions of the stomach, and the British Medical Journal suggests that the drug might prove very valuable in the treatment of various gastric disturbances, and, before all, dyspepsia. For the past three or four years I have been using chloroform in the treatment of disease of the stomach, especially dyspepsia, and it has proven in my hands a valuable and reliable remedy. Such eminent authority as Barthlow says that "chloroform is contra-indicated in all inflammatory conditions of the stomach." My experience has taught me differently, and especially in gastritis, where there is nausea and vomiting, the remedy acts magnificently. It is quite necessary to have a pure article. The commercial drug should not be used. It is known that chloroform venale contains impurities, and when administered internally produces gastro-enteritis. No class of patients are so liable to become discouraged and dissatisfied with your treatment, let it be ever so rational, as dyspeptics, and will seek advice from every physician within reach. By the judicious administration of chloroform the patient feels relief from the beginning of the treatment. It imparts a pleasant, cooling feeling to the diseased mucous membrane and excites the glands of the stomach to healthy action. The dose should be from three to ten drops three or four times a day, owing to the severity of the disease. This remedy, with lavage thoroughly and systematically performed, in the majority of cases will produce the best of results. Lavage is most beneficial in those cases of chronic gastritis where large quantities of mucous are present. Warm water is to be preferred, to which is added a small per cent. of sodium chlor. or sodium bicarb., which has a dissolving action on the mucors. In severe cases lavage should be used once daily. The diet should not be lost sight of, as it is fundamental in the treatment of this disease. We are all aware that without a well regulated regimen drugs might as well not be given in this disease; therefore a duty is devolved upon the physician that is not without perplexities. In severe cases it has been my plan to allow nothing but Horlick's Malted Milk until the disease is well under control, then gradually returning to a more substantial diet. There should be no question as to which exists, chronic inflammation or a functional affection of the stomach, before the treatment is decided upon. The chronic gastritis obstinate constipation usually exists, and such drugs as podophyllin, mercury, etc., should be avoided. Glycerine suppositories are very efficient to unload the bowels, and thereby you have no bad effects to encounter. Alcohol, recommended by no less authority than Osler, is, in my opinion, contra-indicated, and when used in dyspepsia only aggravates the disease. The appetite is more liable to be cultivated for alcohol when taken on a diseased gastric mucous membrane than when it is in a physiological condition.

Let the deductions drawn from this article be unbiased until a fair trial of the drug herein recommended, in a suitable number of cases, proves the writer's observations erroneous, or the height of your zenith shall have been reached in a remedy that will prove most beneficial to the sufferings of the miserable dyspeptic.—Courier of Medicine.

TIC DOULOUREUX.

Treatment consists in making subcutaneous injections of the following solution into the affected side of the face: Distilled water, 10 grammes (2 1-2 fluidrachms); antipyrin, 4 grammes (1 drachm); hydrochlorate of cocaine, 0.003 gramme (1-2 grain). The face sometimes became much swollen, but soon resumed its normal appearance.—Grandiclement in N. Y. Med. Record.

TREATMENT OF GALLSTONE.

Dr. W. J. Mayo, of Rochester, Minn., contributes an article to a late number of the New York Medical Journal on gallstone disease. He says that, according to some observers, 10 per cent. of males and 25 per cent. of females have gallstones. From a study of 1500 autopsies Schroeder estimates that 12 per cent. of adults and 2 per cent. of children are afflicted with gallstones. Some writers are of the opinion that only about 1 per cent. of those who have gallstones are made aware of their condition by symptoms. Dr. Mayo says that when the gallstones are free in the gall bladder they do not produce symptoms of a very definite nature. It is altogether probable that many cases of dyspepsia depend on gallstones. The surgical treatment of this affection is fully discussed. In speaking of the medical treatment he says:

"It can be asserted without fear of contradiction that there is no medical treatment of gallstones; it is wholly surgical. We cannot in the living body dissolve these calculi, although much can be done for the relief of the disease in a non-operative way when the stones are confined to the gall bladder itself. The internal administration of remedies which increase the rapidity of the biliary flow has a deserved reputation in preventing the formation of stones, phosphate of sodium, or a course at the Carlsbad or other saline springs being most popular. As the passage of food through the duodenum is particularly apt to bring on a colic, the use of remedies calculated to allay any existing duodenal catarrh may be of aid, and the avoidance of such articles of diet as the patient soon learns to know as being most liable to start a colic. Glycerin has of late been lauded, as well as many copyrighted preparations of enterprising drug firms. Such allegations are supported by uncertain evidence, derived from the fact that intervals of quiescence are frequent, or based wholly upon the imagination of the owner of the copyright. Olive oil at one time had a great reputation, the examination of the stools after its administration showing quantities of soap balls formed by the action of the intestinal alkalies and shaped by vermicular action. For the relief of pain caused by a temporary blocking of the cystic-duct opening hypodermic injections of morphine, or even chloroform, may be required."

Another interesting article on this same subject is contributed to Medicine by Professor A. H. Ferguson, of Chicago. This article also calls attention to the fact that there is but little to be promised from medical treatment. The sufferer must be relieved by the application of fomentations, and the hypodermic administration of morphine. The surgeon should be called in consultation before the disease has made too much progress. Dr. Ferguson enters into

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In the treatment of the milder grades of gastric and gastro-intestinal catarrh Adjunct Professor Eshner prescribes sodium phosphate in doses ranging from fifteen grains to a dram. The larger doses are used when constipation is present; the smaller when merely a detergent and antacid effect is desired. The drug is directed to be taken in hot water, always before meals, sometimes only in the morning, at other times thrice daily. The concentration varies with the end to be attained, large quantities of water being used when the catarrhal condition is pronounced, minimal quantities when a laxative effect is desired.—Philadelphia Polyclinic.

In the late case of Amick vs. Reeves, in Chattanooga, the defendant showed that all the parties whom Amick claimed to have "cured," in and around Chattanooga, were dead. Now another one of the dead "cured" is heard from. This time Mr. S. G. Sea, formerly an important employee of the Amick Company. It has not been very long since his circular letter, announcing his remarkable "cure," was scattered broadcast over the country. This concern, we believe, is still being advertised by some reputable journals!—Atlanta Med. and Surg. Journal.